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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,490	07/02/2003	Harald Schlag	GP-301444	3525

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EXAMINER	
PARSONS, THOMAS H	

ART UNIT	PAPER NUMBER
1745	

DATE MAILED: 02/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/612,490	SCHLAG, HARALD	
	Examiner	Art Unit	
	Thomas H. Parsons	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) *13-21* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12 and 22-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-12 and 22-27, drawn to a conductive component, classified in class 429, subclass 245.

II. Claims 13-21 drawn to a method of manufacturing a conductive component, classified in class 427, subclass 122.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the product can be made by another and materially different process such as by that described in U.S Patent No. 5,554,415 (TURCHAN et al.).

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Attorney Cary Brooks on 8 February 2006 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-12 and 22-27. Affirmation of this election must be made by applicant in replying to this Office action. Claims 13-21 have been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

DETAILED ACTION

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 22-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claims 22-24 provides for the use of a component, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 22-24 are is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-4, 9-11, and 25-26 are rejected under 35 U.S.C. 102(b) as being anticipate by Lemelson (5,740,941).

Claim 1: Lemelson in Figure 2 discloses a conductive component comprising a metal part (50) having a doped coating (51) in the form of at least one of a doped diamond coating and a doped diamond-like carbon coating (col. 1: 36-41 and col. 2: 34-42).

The recitation "**for an electrochemical cell**", in the preamble, has been considered and construed as a statement of intended use that adds no additional structure to the component.

Claim 2: Lemelson in Figure 3 discloses a doped coating being doped with foreign atoms comprising one of foreign atoms of the main groups of the periodic table of elements and foreign atoms of the side groups of the periodic table of elements (col. 2: 34-42).

Claim 3: Lemelson in Figure 3 discloses a doped coating being doped with at least one of the elements Ti and W.

Claim 4: Lemelson in Figure 3 discloses a doped coating being doped with at least one of the elements B and Fe.

Claim 9: Lemelson discloses a doped coating having a layer thickness above 0μm and below 10 μm. Lemelson on col. 7: 24-29 discloses thicknesses of about 0.000004 in to 0.010 in which equates to 0.1 μm to 2.54 μm which falls within the claimed range.

Claim 10: Lemelson discloses a doped coating having a layer thickness in the range from 1 nm to 150 nm. Lemelson on col. discloses "The synthetic diamond coating 51 may be deposited as carbon atoms stripped from molecules of such gas as methane or other hydrocarbon, vaporous hydrocarbon or carbon atom containing material, combinations of gas and vapor carbon atom containing materials, preferably with suitable hydrogen gas mixed therewith to provide suitably efficient deposition and synthetic diamond layer formation to the desired thickness which may vary in the range of 0.000001" to 0.010" and, **for most applications in the range of a few millions of all inch to a few thousandths of an inch."** A few millions of all inch has been construed as at least 3 or more millions of an inch. Accordingly, 3/100000 in (.000003 in) to 5/100000 in (.000005 in) equates to 76 to 127 nm which falls within the claimed range.

Claim 11: Lemelson discloses that the metal part is formed of a metal selected from the group comprising titanium, steel, aluminum, an alloy of any of the foregoing (col. 6: 13-23, col. 7: 11-15, col. 7: 63-col. 8: 1, and col. 8: 44).

Claim 25: The rejection of claim 25 is as set forth above in claim 1.

Claim 26: The rejection of claim 26 is as set forth above in claims 2 and 3.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lemelson as applied to claims 1-4 above.

Lemelson does not disclose the doped coating having between more than 0% and 35% foreign atoms, as recited in claim 5; the doped coating having between 10 and 20% foreign atoms, as recited in claim 6; the doped coating having between more than 0% and 35% foreign atoms, as recited in claim 7; and, the doped coating having between 10 and 20% foreign atoms, as recited in claim 8.

However, Lemelson discloses on col. 4: 58-col. 5: 8 "The coating material may be varied in its properties by adding select amounts of one or more other elements to either the solid, liquid and/or vaporous or gaseous carbon atom containing molecules applied to the rim portion 12 to form diamond-like materials doped or compounded with such other elements which may comprise nitrogen and/or one or more various metals such as aluminum, silicon, titanium, tungsten, etc. A controlled radiation beam, such as a laser beam or plurality of such beams may be employed to effect one or more of the functions of depositing the one or more coating materials, ion implanting one or more materials in the coating or the glass or ceramic material, stripping atoms of carbon from hydrocarbon molecules and depositing such carbon atoms in the configurations described herein, heating the substrate and bonding the coating material thereto and forming the synthetic diamond or diamond-like material during and/or after deposition takes place."

Therefore, in light of the teaching of Lemelson, it would have been within the skill of one having ordinary skill in the art at the time the invention was made to have provided the conductive component with the claimed or any other %foreign atoms depending upon the desired properties of the coating in a controlled manner.

13. Claims 12 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lemelson as applied to claim1 and 25 above, and further in view of Adlhart et al. (3,623,913).

Claims 12 and 27: Lemelson et al. are as applied, argued, and disclosed above, and incorporated herein.

Lemelson et al. disclose " The invention is also directed to improvements in the structures of articles of manufacture, ...subject to corrosion and erosion during use and methods for coating the interior surfaces thereof with synthetic diamond material by forming same from carbon atoms or carbon atom containing material deposited thereon."

However, Lemelson does not disclose a bipolar plate for a fuel cell.

Adlhart et al. disclose a bipolar plate and that in selecting a suitable material of construction for the bipolar plate, the corrosive environment of the cell and the electrical and thermal conductivity of the material and its cost are considerations.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the conductive component of Lemelson by replacing the metal part with the metal part (bipolar plate) of Adlhart et al. because the Lemelson combination would provided an improved conductive component having a coating that would

have protected the metal part form degradation by corrosion and erosion thereby improving the overall life, structural integrity and performance of the fuel cell.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas H. Parsons whose telephone number is (571) 272-1290. The examiner can normally be reached on M-F (7:00-4:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER

Thomas H Parsons
Examiner
Art Unit 1745

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